IN THE CLAIMS

1-14. (Canceled)

15. (Currently amended) A nuclear fuel rod for a boiling water nuclear reactor ~~of the boiling water type~~, comprising:

a cladding tube, defining a closed inner space and which is manufactured from at least one of the materials in the group zirconium and a zirconium-based alloy;

a plurality of nuclear fuel pellets, arranged in the inner space in the cladding tube so that the nuclear fuel pellets fill part of the inner space;

an initial [[a]] fill gas arranged in the closed inner space in order to fill the rest of the inner space;

whereby the initial fill gas contains a proportion of inert gas and a proportion of carbon monoxide having a ratio based on the partial pressures thereof of at least 0.03; and wherein

the internal pressure (P_{fill}) of the initial fill gas in the nuclear fuel rod amounts to least ~~about~~ 2 bar (abs) at room temperature (T_R) and the proportion of carbon monoxide is at least ~~about~~ 3 volume per cent of the initial fill gas.

16. (Currently amended) A nuclear fuel rod according to claim 15, wherein the proportion of carbon monoxide constitutes at least ~~about~~ 4 volume per cent of the initial fill gas.

17. (Currently amended) A nuclear fuel rod according to claim 16, wherein the proportion of carbon monoxide constitutes at least ~~about~~ 5 volume per cent of the initial fill gas.

18. (Currently amended) A nuclear fuel rod according to claim 17, wherein the proportion of carbon monoxide constitutes at least ~~about~~ 6 volume per cent of the initial fill gas.

19. (Withdrawn) A nuclear fuel rod for a nuclear reactor of the pressurized water type, comprising:

a cladding tube defining a closed inner space and which is manufactured from at least one of the materials in the group zirconium and a zirconium-based alloy;

a plurality of nuclear fuel pellets, arranged in the inner space in the cladding tube so that the nuclear fuel pellets fill part of the inner space;

a fill gas arranged in the closed inner space in order to fill the rest of the inner space;

the fill gas containing a proportion of inert gas and a proportion of carbon monoxide; and wherein

the internal pressure (P_{fill}) of the fill gas in the nuclear fuel rod amounts to at least about 10 bar (abs) at room temperature (T_R) and that the proportion of carbon monoxide is at least about 2 volume per cent of the fill gas.

20. (Withdrawn) A nuclear fuel rod according to claim 19, wherein the proportion of carbon monoxide amounts to at least about 3 volume per cent of the fill gas.

21. (Withdrawn) A nuclear fuel rod according to claim 20, wherein the proportion of carbon monoxide amounts to at least about 4 volume per cent of the fill gas.

22. (Withdrawn) A nuclear fuel rod according to claim 21, wherein the proportion of carbon monoxide amounts to at least about 5 volume per cent of the fill gas.

23. (Previously presented) A nuclear fuel rod according to claim 15, wherein the cladding tube has an inner surface that faces the inner space and the material in the cladding tube nearest the inner surface is pre-oxidized to provide a surface layer that comprises zirconium oxide.

24. (Previously presented) A nuclear fuel rod according to claim 15, wherein the inert gas consists substantially of helium.

25. (Currently amended) A nuclear fuel assembly comprising a plurality of nuclear fuel rods, each fuel rod including:

a cladding tube, defining a closed inner space and which is manufactured from at least one of the materials in the group zirconium and a zirconium-based alloy;

a plurality of nuclear fuel pellets, arranged in the inner space in the cladding tube so that the nuclear fuel pellets fill part of the inner space;

an initial [[a]] fill gas arranged in the closed inner space in order to fill the rest of the inner space;

whereby the initial fill gas contains a proportion of inert gas and a proportion of carbon monoxide; and wherein

the internal pressure (P_{fill}) of the initial fill gas in the nuclear fuel rod amounts to least ~~about~~ 2 bar (abs) at room temperature (T_R) and the proportion of carbon monoxide is at least ~~about~~ 3 volume per cent of the initial fill gas.

26. (Withdrawn) A method for manufacturing a nuclear fuel rod for a nuclear reactor of the boiling water type, comprising the steps of:

providing a cladding tube that defines an inner space and that is manufactured from at least one of the materials in the group zirconium and a zirconium-based alloy;

introducing a plurality of nuclear fuel pellets, that are arranged in the inner space in the cladding tube so that the nuclear fuel pellets fill part of the inner space;

filling up the inner space with a fill gas, that contains a proportion of inert gas and a proportion of carbon monoxide, in order to fill the rest of the inner space and concluding the inner space when an internal pressure, that amounts to at least about 2 bar (abs) at room temperature (T_R), exists in the inner space; and

whereby the proportion of carbon monoxide is greater than about 3 volume per cent of the fill gas.

27. (Withdrawn) A method for manufacturing a nuclear fuel rod for a nuclear reactor of the pressurized water type, comprising the steps of:

providing a cladding tube that defines an inner space and that is manufactured from at least one of the materials in the group zirconium and a zirconium-based alloy;

introducing a pile of nuclear fuel pellets, that are arranged in the inner space in the cladding tube so that the nuclear fuel pellets fill part of the inner space;

filling up the inner space with a fill gas, that contains a proportion of inert gas and a proportion of carbon monoxide, in order to fill the rest of the inner space and concluding the inner space when an internal pressure, that amounts to at least about 10 bar (abs) at room temperature (T_R), exists in the inner space; and

whereby the proportion of carbon monoxide is greater than about 2 volume per cent of the fill gas.

28. (Withdrawn) A method according to claim 26, whereby the cladding tube has an inner surface that faces the inner space and whereby the inner surface is provided with a surface layer that comprises zirconium oxide before the nuclear fuel pellets are introduced into the cladding tube.

29. (Withdrawn) A method according to claim 27, whereby the cladding tube has an inner surface that faces the inner space and whereby the inner surface is provided with a surface layer that comprises zirconium oxide before the nuclear fuel pellets are introduced into the cladding tube.